



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/610,690	06/30/2003	Charles J. Levine	MSFT-1797 (303687.01)	2925
41505 7590 04/09/2007 WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER STACE, BRENT S	
			ART UNIT 2161	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/610,690	Applicant(s) LEVINE ET AL.	
	Examiner Brent S. Stace	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. This communication is responsive to the amendment filed November 1st, 2006. Claims 1-15 and 17-20 are pending. In the amendment filed November 1st, 2006, Claims 1-11, 17, and 20 are amended, Claim 16 is canceled, and Claims 1, 11, 17, and 20 are independent Claims. The examiner acknowledges that no new matter was introduced and the amended and new claims are supported by the specification.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 1st, 2006 has been entered.

Response to Arguments

3. Applicant's arguments filed November 1st, 2006 with respect to Claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.
4. Although the rejections below use the same prior art, a new grounds of rejection has been applied by using a different interpretation of the prior art.
5. Any other claims argued merely because of a dependency on a previously argued claim(s) in the arguments presented to the examiner, dated January 12th, 2007,

are moot in view of the examiner's interpretation of the claims and art and are still considered rejected based on their respective modified rejections from the prior Office action (parts of recited again below).

Response to Amendment

Drawings

6. One drawing objection still is maintained from the previous Office actions; the drawing objection is below.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 16. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

8. Claims 1-10 and 17-20 are objected to because of the following informalities:

- a. Claim 1, line 7 recites "and" and the end of the line. This appears to be a grammatical error since there is an "and" indicating the last limitation follows on line 10. This objection propagates downward through dependent Claims 2-10.
 - b. Claims 17 and 20 at lines 8 and 9, respectfully, recite "under" when it appears that the correct wording should be "using." This objection propagates downward through dependent Claims 18 and 19.
- Appropriate correction is required.

Claim Rejections - 35 USC § 101

9. In light of the applicant's respective arguments or respective amendments, the previous 35 USC § 101 rejections to the claims have been withdrawn.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
11. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
12. Claim 1 recites the limitation "the deterministic data generation module" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim. This rejection propagates downward through dependent Claims 2-10.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by "Quickly Generating Billion-Record Synthetic Databases" (Gray et al.).

Claim 11 can be mapped to Gray as follows: "A method for generating data [Gray, page 243, Introduction] comprising:

- providing a deterministic data generation module stored on at least one medium, [Gray, page 243, Introduction with Gray, page 244, Sequential Database Generation] the deterministic data generation module accepting inputs for processing to generate a data set having synthesized data [Gray, program 6, "answer cursor" with Gray, page 246, Generating Dense Unique Random Data] wherein within the data set each data element has a sequence number, and the data set is organized such that the data is positioned from lowest sequence number to highest sequence number in a sequential fashion; [Gray, page 246, Generating Dense Unique Random Data with Gray, page 248, Generating Indices on Random Data] and
- providing a seed [Gray, p. 246, program 6, "i" in for loop #2 with Gray, p. 246, Generating Dense Unique Random Data (col. 1)] as input to the deterministic data generation module, the seed acting to position the deterministic data

Art Unit: 2161

generation module to generate data having a predefined sequence number, wherein the seed value is derived from the predefined sequence number, and wherein the sequence number represents a starting point from which the synthetic data is used as input to process whose performance is to be evaluated" [Gray, page 246, Generating Dense Unique Random Data].

Claim 12 can be mapped to Gray as follows: "The method as recited in claim 11, further comprising communicating the synthesized data to cooperating data environments" [Gray, page 244, above table 3].

Claim 13 can be mapped to Gray as follows: "The method as recited in claim 11, further comprising changing the value of the seed" [Gray, page 246, program 6, "i" in for loop #2].

Claim 14 can be mapped to Gray as follows: "The method as recited in claim 11, processing the synthesized data by cooperating environments as part of a benchmarking study" [Gray, p. 243, Abstract with Gray, p. 243, Introduction in (col. 1)].

Claim 15 can be mapped to Gray as follows: "The method as recited in claim 11, further comprising schematizing the synthesized data according to a predefined data schema definition" [Gray, page 247, program 13].

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2161

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 1-10 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Quickly Generating Billion-Record Synthetic Databases" (Gray et al.) in view of U.S. Patent No. 6,324,647 (Bowman-Amuah).

For **Claim 1**, Gray teaches: "One or more computer-readable storage media having stored thereon a set of computer-executable instructions to perform a method for generating data, [Gray, p. 243, Introduction with Gray, p. 244, Sequential Database Generation] the method comprising:

- ...accepting, as a first input, at least one of: (a) data sets and (b) data elements from which synthetic data is generated, said synthetic data having a sequence; [Gray, program 6, "answer cursor" with Gray, page 246, Generating Dense Unique Random Data]

Art Unit: 2161

- receiving a seed [Gray, p. 246, program 6, "i" in for loop #2 with Gray, p. 246, Generating Dense Unique Random Data (col. 1)] as a second input to the deterministic data generation module, the seed indicating a position in the sequence of the synthetic data, the position representing a starting point in the sequence from which the synthetic data is used as input to a process whose performance is to be evaluated" [Gray, p. 246, program 6, "i" with Gray, p. 246, Generating Dense Unique Random Data with Gray, p. 243, Abstract].

Gray discloses the above limitations but does not expressly teach:

- "...generating an identical collection of items of data each time the set of computer-executable instructions are executed; and."

With respect to Claim 1, an analogous art, Bowman-Amuah, teaches:

- "...generating an identical collection of items of data each time the set of computer-executable instructions are executed; and" [Bowman-Amuah, cols. 101-102, lines 60-11 with Gray, p. 246, Generating Dense Unique Random Data].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bowman-Amuah with Gray because both inventions are directed towards creating test data for a database application.

Bowman-Amuah's invention would have been expected to successfully work well with Gray's invention because both inventions create test data for use in databases. Gray discloses quickly generating billion-record synthetic databases comprising data generators, however Gray does not explicitly disclose that the data generated is

identical for each time the data is generated. Bowman-Amuah discloses a system, method and article of manufacture for security management in a development architecture framework comprising test data generation tools.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the test data generation tools from Bowman-Amuah and install them into the invention of Gray, thereby offering the obvious advantage of maintaining input data and expected results associated with a test plan.

Claim 2 can be mapped to Gray (as modified by Bowman-Amuah) as follows:

"The one or more computer-readable storage media as recited in claim 1, wherein the computer-executable instructions comprise a computing application" [Gray, page 243, Abstract with Gray, p. 246, program 6].

Claim 3 can be mapped to Gray (as modified by Bowman-Amuah) as follows:

"The one or more computer-readable storage media as recited in claim 2, wherein the computing application comprises a linear congruential generation function" [Gray, page 243, Abstract].

Claim 4 can be mapped to Gray (as modified by Bowman-Amuah) as follows:

"The one or more computer-readable storage media as recited in claim 1, wherein the seed is set for each discrete data element that may be re-generated" [Gray, page 246, program 6 with Bowman-Amuah, cols. 101-102, lines 60-11].

Claim 5 can be mapped to Gray (as modified by Bowman-Amuah) as follows:

"The one or more computer-readable storage media in claim 1, wherein the computer-

executable instructions operate to generate data in a serial fashion" [Gray, page 244-245, Sequential Database Generation].

Claim 6 can be mapped to Gray (as modified by Bowman-Amuah) as follows:
"The one or more computer-readable storage media as recited in claim 1, wherein the computer-executable instructions operate to generate data in a parallel fashion" [Gray, page 245, Parallel Database Generation].

Claim 7 can be mapped to Gray (as modified by Bowman-Amuah) as follows:
"The one or more computer-readable storage media as recited in claim 1, wherein the method is performed in a database environment" [Gray, page 243, Introduction].

Claim 8 can be mapped to Gray (as modified by Bowman-Amuah) as follows:
"The one or more computer-readable storage media as recited in claim 1, wherein the first input comprises any of a range of letters, a range of numbers, a range of strings, a range of data sets, letters, numbers, strings, and data sets" [Bowman-Amuah, cols. 101-102, lines 60-3 with Gray, page 246, Generating Dense Unique Random Data].

Claim 9 can be mapped to Gray (as modified by Bowman-Amuah) as follows:
"The one or more computer-readable storage media as recited in claim 1, wherein the method further comprises:

- using a communication means [Gray, p. 243, The Computation Model with Gray, p. 243, Fig. 2] to communicate the synthetic data to cooperating data environments" [Gray, p. 244, above table 3 with Gray, p. 243, Fig. 2].

Claim 10 can be mapped to Gray (as modified by Bowman-Amuah) as follows:
"The one or more computer-readable storage media as recited in claim 1, wherein the

Art Unit: 2161

synthetic data is data for use in benchmarking activities having a predefined data schema definition" [Gray, page 243, Abstract].

For **Claim 17**, Gray teaches: "A first system to generate...synthetic data [Gray, page 243, Introduction] comprising:

- a means to generate a deterministic set of synthesized data, [Gray, page 243, Introduction] wherein each data element of the data set has a sequential number; [Gray, page 246, Generating Dense Unique Random Data]
- a means to seed the generating function [Gray, page 246, program 6] to generate data having a particular sequence number that is chosen based on the seed [Gray, page 246, Generating Dense Unique Random Data] and
- a mechanism to test performance of a second system by providing the deterministic set of synthesized data as input to said second system and measuring behavior of said second system under said set of synthesized data" [Gray, p. 243, Abstract with Gray, p. 243, Introduction in (col. 1)].

Gray discloses the above limitations but does not expressly teach:

"...repeatable."

With respect to Claim 17, an analogous art, Bowman-Amuah, teaches:

"...repeatable" [Bowman-Amuah, cols. 101-102, lines 60-11].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bowman-Amuah with Gray because both inventions are directed towards creating test data for a database application.

Bowman-Amuah's invention would have been expected to successfully work well with Gray's invention because both inventions create test data for use in databases. Gray discloses quickly generating billion-record synthetic databases comprising data generators, however Gray does not explicitly disclose that the data generated is identical for each time the data is generated (repeatable). Bowman-Amuah discloses a system, method and article of manufacture for security management in a development architecture framework comprising test data generation tools.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the test data generation tools from Bowman-Amuah and install them into the invention of Gray, thereby offering the obvious advantage of maintaining input data and expected results associated with a test plan.

Claim 18 can be mapped to Gray (as modified by Bowman-Amuah) as follows: "The system as recited in claim 17, wherein the seed comprises a value in a range from one to the maximum number of data elements of the data set" [Gray, page 246, Generating Dense Unique Random Data with Gray, page 246, program 6].

Claim 19 can be mapped to Gray (as modified by Bowman-Amuah) as follows: "The system as recited in claim 17, further comprising a communicating means, [Gray, page 243, The Computation Model] the communicating means for use to communicate the generated synthesized data to cooperating data environments" [Gray, page 244, above table 3].

For **Claim 20**, Gray teaches: "A method to generate ... synthesized data [Gray, page 243, Introduction] comprising:

Art Unit: 2161

- executing a deterministic data generation function to generate a data set [Gray, page 243, Introduction] corresponding to sequential numbers, the numbers associated with a data element of the data set; [Gray, page 246, Generating Dense Unique Random Data]
- setting a seed [Gray, page 246, program 6 with Gray, page 247, program 13 with Gray, page 248, program 18 with Gray, page 250, Generating Non Uniform Data] to act as input for the deterministic data generation function such that the input drives the deterministic data generation function to generate data corresponding to a particular sequential number [Gray, page 246, Generating Dense Unique Random Data, specifically, the first paragraph under the heading] and
- testing performance of a system by providing said data set as input to said system and measuring behavior of said system under said data set [Gray, p. 243, Abstract with Gray, p. 243, Introduction in (col. 1)].

Gray discloses the above limitations but does not expressly teach:

“...repeatable.”

With respect to Claim 20, an analogous art, Bowman-Amuah, teaches:

“...repeatable” [Bowman-Amuah, cols. 101-102, lines 60-11].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bowman-Amuah with Gray because both inventions are directed towards creating test data for a database application.

Bowman-Amuah's invention would have been expected to successfully work well with Gray's invention because both inventions create test data for use in databases.

Art Unit: 2161

Gray discloses quickly generating billion-record synthetic databases comprising data generators, however Gray does not explicitly disclose that the data generated is identical for each time the data is generated (repeatable). Bowman-Amuah discloses a system, method and article of manufacture for security management in a development architecture framework comprising test data generation tools.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the test data generation tools from Bowman-Amuah and install them into the invention of Gray, thereby offering the obvious advantage of maintaining input data and expected results associated with a test plan.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 9am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu M. Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brent Stace

B.S.

Apu Mofiz
TC2100

Am